

RIPK1 / RIP Antibody (clone 7H10)
Mouse Monoclonal Antibody
Catalog # ALS14809**Specification****RIPK1 / RIP Antibody (clone 7H10) - Product Information**

Application	WB, IHC
Primary Accession	O13546
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Calculated MW	76kDa KDa

RIPK1 / RIP Antibody (clone 7H10) - Additional Information**Gene ID** 8737**Other Names**

Receptor-interacting serine/threonine-protein kinase 1, 2.7.11.1, Cell death protein RIP, Receptor-interacting protein 1, RIP-1, Serine/threonine-protein kinase RIP, RIPK1, RIP, RIP1

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions

RIPK1 / RIP Antibody (clone 7H10) is for research use only and not for use in diagnostic or therapeutic procedures.

RIPK1 / RIP Antibody (clone 7H10) - Protein Information**Name** RIPK1 ([HGNC:10019](#))**Function**

Serine-threonine kinase which is a key regulator of TNF- mediated apoptosis, necroptosis and inflammatory pathways (PubMed: [17703191](http://www.uniprot.org/citations/17703191), PubMed: [24144979](http://www.uniprot.org/citations/24144979), PubMed: [31827280](http://www.uniprot.org/citations/31827280), PubMed: [31827281](http://www.uniprot.org/citations/31827281), PubMed: [32657447](http://www.uniprot.org/citations/32657447)). Exhibits kinase activity-dependent functions that regulate cell death and kinase-independent scaffold functions regulating inflammatory signaling and cell survival (PubMed: [11101870](http://www.uniprot.org/citations/11101870), PubMed: [19524512](http://www.uniprot.org/citations/19524512), PubMed: [19524513](http://www.uniprot.org/citations/19524513), PubMed: [29440439](http://www.uniprot.org/citations/29440439), PubMed: [30988283](http://www.uniprot.org/citations/30988283)). Has kinase-independent scaffold functions: upon binding of TNF to TNFR1, RIPK1 is recruited to the TNF-R1 signaling complex (TNF-RSC also known as complex I)

where it acts as a scaffold protein promoting cell survival, in part, by activating the canonical NF-kappa-B pathway (By similarity). Kinase activity is essential to regulate necroptosis and apoptosis, two parallel forms of cell death: upon activation of its protein kinase activity, regulates assembly of two death-inducing complexes, namely complex IIa (RIPK1-FADD-CASP8), which drives apoptosis, and the complex IIb (RIPK1-RIPK3-MLKL), which drives necroptosis (By similarity). RIPK1 is required to limit CASP8-dependent TNFR1-induced apoptosis (By similarity). In normal conditions, RIPK1 acts as an inhibitor of RIPK3-dependent necroptosis, a process mediated by RIPK3 component of complex IIb, which catalyzes phosphorylation of MLKL upon induction by ZBP1 (PubMed:19524512, PubMed:19524513, PubMed:29440439, PubMed:30988283). Inhibits RIPK3-mediated necroptosis via FADD-mediated recruitment of CASP8, which cleaves RIPK1 and limits TNF-induced necroptosis (PubMed:19524512, PubMed:19524513, PubMed:29440439, PubMed:30988283). Required to inhibit apoptosis and necroptosis during embryonic development: acts by preventing the interaction of TRADD with FADD thereby limiting aberrant activation of CASP8 (By similarity). In addition to apoptosis and necroptosis, also involved in inflammatory response by promoting transcriptional production of pro-inflammatory cytokines, such as interleukin-6 (IL6) (PubMed:31827280, PubMed:31827281). Phosphorylates RIPK3: RIPK1 and RIPK3 undergo reciprocal auto- and trans-phosphorylation (PubMed:19524513). Phosphorylates DAB2IP at 'Ser-728' in a TNF-alpha- dependent manner, and thereby activates the MAP3K5-JNK apoptotic cascade (PubMed:15310755, PubMed:17389591). Required for ZBP1-induced NF-kappa-B activation in response to DNA damage (By similarity).

Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:Q60855}. Cell membrane {ECO:0000250|UniProtKB:Q9ZUF4}

Volume

50 µl

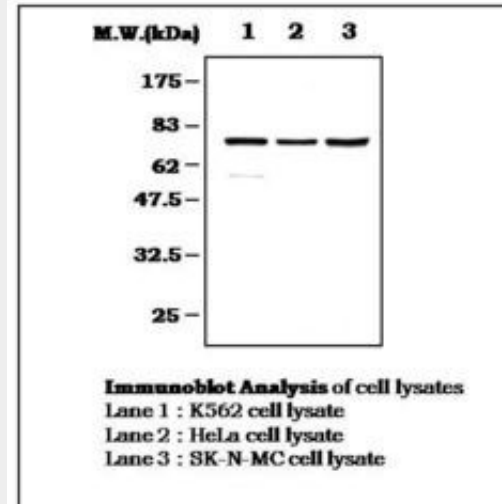
RIPK1 / RIP Antibody (clone 7H10) - Protocols

Provided below are standard protocols that you may find useful for product applications.

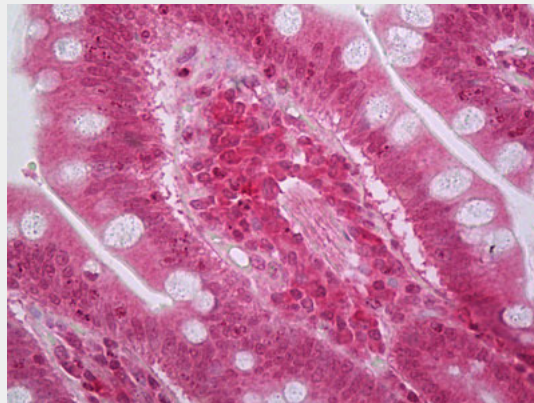
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

RIPK1 / RIP Antibody (clone 7H10) - Images





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Anti-RIPK1 /RIP antibody IHC of human small intestine.

RIPK1 / RIP Antibody (clone 7H10) - Background

Serine-threonine kinase which transduces inflammatory and cell-death signals (programmed necrosis) following death receptors ligation, activation of pathogen recognition receptors (PRRs), and DNA damage. Upon activation of TNFR1 by the TNF-alpha family cytokines, TRADD and TRAF2 are recruited to the receptor. Phosphorylates DAB2IP at 'Ser-728' in a TNF-alpha-dependent manner, and thereby activates the MAP3K5-JNK apoptotic cascade. Ubiquitination by TRAF2 via 'Lys-63'-link chains acts as a critical enhancer of communication with downstream signal transducers in the mitogen-activated protein kinase pathway and the NF-kappa-B pathway, which in turn mediate downstream events including the activation of genes encoding inflammatory molecules. Polyubiquitinated protein binds to IKBKG/NEMO, the regulatory subunit of the IKK complex, a critical event for NF-kappa-B activation. Interaction with other cellular RHIM-containing adapters initiates gene activation and cell death. RIPK1 and RIPK3 association, in particular, forms a necrosis-inducing complex.

RIPK1 / RIP Antibody (clone 7H10) - References

- Hsu H.,et al.Immunity 4:387-396(1996).
- Huang J.,et al.Submitted (AUG-1998) to the EMBL/GenBank/DDBJ databases.
- Ota T.,et al.Nat. Genet. 36:40-45(2004).
- Mungall A.J.,et al.Nature 425:805-811(2003).
- Totoki Y.,et al.Submitted (MAR-2005) to the EMBL/GenBank/DDBJ databases.